

## Abstract of the Disclosure

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A rotation stabilizing device in a microgravitational rotating apparatus is provided by which vibration is suppressed and rotation is stabilized. Recess portions 10a, 10b are provided on a casing 10 so that bearings 14, 15 are arranged therein for supporting a rotary shaft 30. Experimental boxes 17a to 17h fixed to arms 16a to 16b rotate together with the rotary shaft 30. A fin 33 is fixed to outer circumferential surfaces of the experimental boxes 17a to 17b projecting outwardly therefrom. Pairs of electromagnetic coils 31a, 31b, in which the fin 33 is interposed with a predetermined gap maintained therebetween, and gap sensors 32 close thereto are fitted on the casing 10 side. Displacement of the fin 33 is detected by the gap sensors 32 to be inputted into a control unit to thereby control exciting current of the electromagnetic coils 31a, 31b. The gap is brought into the position within a demand value and rotation is stabilized.